



# 4 Port Outdoor Optical Node

## Key Features

- » Advanced optical AGC circuit design, with the input optical power range of up to  $-6 \sim +2\text{dBm}$
- » RF operating bandwidth of 1GHz, with the highest output level  $\geq 108\text{dB}\mu\text{V}$  ( $+48\text{dBmV}$ )
- » The architecture uses an embedded modular design making it easy to maintain, replace, and upgrade



## Description

MUL-OFN-V-M-FP-4-M outdoor optical node is bi-directional node specifically developed for HFC broadband networks. It accommodates the FTTH (Fiber to the Home) network topology, while addressing the issues of CATV bidirectional return channel noise and high reliability network security transmission requirements of modern CATV networks.

This outdoor optical node uses a modular architecture allowing fast, easy servicing, a variety of configurations, and easy upgrading. The RF amplifier section and the switching power supply module are in one modular unit in the bottom cover. The top cover can be populated with 1 forward optical receiver module, 1 reverse optical transmitter module and 1 optional Ethernet transponder/Network Management module.

**MUL-OFN-V-M-FP-4-M** — Case Size - S: Small, M: Medium, L: Large  
— Number of Ports - 2, 4  
— Laser Type - FP, DFB  
— Interior Components - M: Modular, F: Fixed

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## Product Specifications

Item	Unit	Technical Parameter	
<b>Forward Optical Receiver</b>			
Optical Parameters			
Optical Receiving Power	dBm	-6 ~ +2	
Optical Return Loss	dB	> 45	
Optical Receiving Wavelength	nm	1100 ~ 1600	
Optical Connector Type		SC/APC	
Optical Fiber Type		Single Mode	
Link Performance			
C/N	dB	≥ 51	@84ch, Pin= -1dBm, output level 106dBuV, EQ 6dB
C/CTB	dB	≥ 65	
C/CSO	dB	≥ 63	
RF Parameters			
Frequency Range	MHz	54 ~ 1003	
Flatness in Band	dB	± 0.75	
Rated Output Level	dBmV	≥ +46 (≥ 106 dBμV)	
Max Output Level	dBmV	≥ +48 (≥ 108 dBμV) when input optical power -6 ~ +2dBm	
Output Return Loss	dB	≥ 16	
Output Impedance	Ω	75	
<b>Return Optical Transmitter</b>			
Optical Parameters			
Optical Transmit Wavelength	nm	1310 ±10	
Laser Type		FP Laser (DFB Laser is an optional upgrade)	
Optical Output Power	mW	1	
Optical Connector Type		SC/APC	
RF Parameters			
Frequency Range	MHz	5 ~ 42	
Flatness in Band	dB	±0.75	
Input Level	dBmV	+15 ~ +25 (75 ~ 85 dBμV)	
Input Return Loss	dB	≥ 16	
Output Impedance	Ω	75	
NPR Dynamic Range	dB	≥10 (NPR ≥30dB) using the FP laser, ≥15 (NPR ≥30dB) using optional DFB laser	
General Statistics			
Power Voltage	V	AC35 ~ 90V/50-60Hz (insert power at any F-Port)	
Operating Temperature	°C	-30 ~ +70 (-22 ~ +158°F)	
Storage Temperature	°C	-30 ~ +70 (-22 ~ +158°F)	
Relative Humidity	%	Max 95% no condensation	
Consumption	W	≤ 34	
Dimensions	mm	295 (L) x 210 (W) x 150 (H) (11.6in x 8.3in x 6in)	

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Interior Components - M: Modular, F: Fixed

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